ABSTRACT

There is provided a new branched primary alcohol composition and the sulfates thereof exhibiting good cold water detergency and biodegradability. The branched primary alcohol composition has an average number of branches per chain of at least 0.7, having at least 8 carbon atoms and contianing both methyl and ethyl branches. The primary alcohol composition may also contain less than 0.5 atom% of quaternary carbon atoms, and a significant number ethyl branches, terminal isopropyl branches, and branching at the C_3 position relative to the hydroxyl carbon. The process for its manufacture is by skeletally isomerizing an olefin feed having at least 7 carbon atoms followed by conversion to an alcohol, as by way of hydroformylation, and ultimately, sulfation to obtain a detergent surfactant. Useful catalysts include the zeolites having at least one channel with a crystallographic free diameter along the x and/or y planes of the [001] view ranging from greater than 4.2 Å and less than 7 Å. but allows one to skeletally isomerize the olefin to produce a variety of branches, while retaining ready biodegradability and good cold water detergency.